

Electrochemistry Branch (RPC)

Responsible for the development of improved electrochemical technologies that result in high performing, long life batteries and fuel cell systems for NASA missions. Many of these advances also have applicability for DoD and commercial markets. Develops and tests components for advanced battery, fuel cell and regenerative fuel cell systems including advanced anodes, cathodes, polymers and other electrolytes and membranes. Addresses cell and system level improvements for advanced battery and fuel cell systems. This includes lithium-based, nickel-based, battery chemistries, proton exchange membrane, solid oxide fuel cell, and electrolysis systems. Conducts extensive life testing of components as well as complete battery and fuel cell systems. Performs system design, modeling, and analysis of advanced electrochemical systems.

Technical acumen along with a comprehensive database on electrochemical design heritage provides performance and life prediction of batteries and fuel cells to meet various aerospace and terrestrial energy storage requirements. Research is performed both in-house and via specific contract awards in the area of unique battery and fuel cell manufacturing activities. .

